USSR UDC 547.944/945

MIRZOYEV, Kh. M., ABDUSAMATOV, A., and YUNUSOV, S. Yu., Azerbaydzhan Medical Institute imeni N. Narimanov; "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Academy of Sciences of the Uzbek SSR

"Alkaloids of Taxus Baccata"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 6, 1970, pp 777-778

Abstract: The authors investigate the alkaloid make-up of the leaves of Taxus baccata (the English yew). An ether extract of the plant material yielded an alkaloid sum which was chromatographically separated into two bases -- A and B. Base B is identified as taxine. IR-spectroscopic data are given for base A.

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USSR UDC 547.944:945

UMAROV, Kh. S., ISMAILOV, Z. F., and YUNUSOV, S. Yu., Institute of Plant Chemistry, UzbekSSR Academy of Sciences

"Thalictrum Flavum Alkaloids. The Structure of Thalflavin"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1970, pp 444-446

Abstract: Two alkaloids were isolated from Th. flavum L. roots. The new alkaloid thalflavin was obtained in the form of prismatic crystals melting at 132-133°. Its structure, as derived from spectral analysis is most probably 1-oxy-N-methyl-5-methoxy-6,7-methylenedioxy-tetrahydroisoquinoline. The other alkaloid was obtained in the form of a yellow, amorphous powder, melting at 105-106°C. It was found to be thalicarpine.

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURE OF ERVINCEINE, ERVAMYCINE, AND ERVINCINE -U-

AUTHOR-(04)-RAKHIMOV, D.A., MALIKOV, V.M., YAGUDAYEV, M.R., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 226-31

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, IR SPECTRUM, MASS SPECTRUM, NUCLEAR MAGNETIC RESONANCE, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0466 STEP NO--UR/0393/70/006/002/0226/0231

CIRC ACCESSION NO--AP0132681

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132681
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM VINCA ERECTA, (MINUS) EBURNAMONINE AND 3 NEW ALKALOIDS ERVINCEINE (I), ERVAMYCINE (II), AND ERVINCININE (III) WERE ISOLATED AND STRUCTURES ASSIGNED ON THE BASIS OF CHEM. TRANSFORMATION AND UV, IR, NMR, AND MASS SPECTRA. II WAS HYDROGENATED TO I. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STRUCTURE OF TALATISAMINE -U-

AUTHOR-(02)-YUNUSOV, M.S., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 90-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR STRUCTURE, NUCLEAR MAGNETIC RESONANCE, AMINE DERIVATIVE, BENZENE DERIVATIVE, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0173 STEP NO--UR/0393/70/006/001/0090/0094

CIRC ACCESSION NO--AP0130932

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130932

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR AND MASS SPECTRAL INVESTIGATION OF THE TITLE COMPD. (I), ITS DI AC, BZ, BENZOYLACETYL, AND 18 OXO DERIVS., AND ITS PYROLYTIC PRODUCTS (PYROACETYLTALATISAMINE, ISOPYROACETYLTALATISAMINE, AND DEMETHOXYPYROTALATISAMINE) SUGGESTED THE STRUCTURE FOR I. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NMR SPECTROSCOPIC STUDY OF THE STEREOCHEMISTRY OF GALANTHAMINE TYPE
ALKALOIDS. I -U-
AUTHOR-(03)-YAGUDAYEV, M.R., ABDUSAMATOV, A., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2) 235-9

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NMR SPECTRUM, ALKALOID, STEREOCHEMISTRY, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1890 STEP NO--UR/0393/70/006/002/0235/0239

CIRC ACCESSION NO--AP0123678
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PMR SPECTRA OF GALANTHAMINIHE (I), EPIGALANTHAMINE AND ITS ACETYL DERIV. INDICATED THE OH GROUP IN I IS QUASIAXIAL BUT IN EPIGALANTHAMINE IS QUASIEQUATORIAL AND THE RING B POSSESS HALF CHAIR CONFORMATION IN CIS LINKAGE, WITH RING C. IN SOLN., THE OH IN I IS INTERMOL. H BONDED. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ALTERAMINE A NEW ALKALOID FROM THERMOPSIS ALTERNIFLORA -U-

AUTHOR-(03)-SHAYMARDANOV, R.A., ISKANDAROV, S., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 276-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, SOLVENT EXTRACTION,
CHLOROFORM, UV SPECTRUM, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0454 STEP NO--UR/0393/70/006/002/0276/0277

CIRC ACCESSION NO--AP0132669
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132669

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXTN. OF THE OVER EARTH PARTS OF T. ALTERNIFLORA WITH CHCL SUB3 GAVE 3.35PERCENT OF ALKALOIDS; ET SUB2 O DISSOLVED PACHYCARPINE, ISOLATED AS THE HCLP SUB4 SALT, M. 171DEGREES. CHROMATOG. OF THE CHCL SUB3 SOLN. GAVE N-ACETYLCYTISINE AND CYTISINE; FROM THE MOTHER LIQUORS, A NEW ALKALOID ALTERAMINE (I), C SUB15 H SUB20 ON SUB2, M. 112DEGRES, (ALPHA) MINUS 43DEGREES (HCLO SUB4 SALT M. 234-5DEGREES; HI SALT M. 212-13DEGREES, PICRATE M. 215-16DEGREES, HCL SALT M. 185-6DEGREES, MEI SALT M. 225-6DEGREES) WAS OBTAINED. HYDROGENATION WITH RANEY NI GAVE A DIHYDRO DERIV. WITH (ALPHA) SUBD MINUS 100DEGREES; HCLO SUB4 SALT M. 272DEGREES. UV AND IR SPECTRA, AS WELL AS CRO SUB3 OXIDN. SUPPORT A TRICYCLIC ALKALOID OF THE CYTISINE STRUCTURE WITH A PROPYL SIDE CHAIN FOR I. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MASS SPECTROMETRIC STUDY OF THE STRUCTURE OF FETIDINE -U-

AUTHOR-(02)-ISMAILOV, Z.F., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 142

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MASS SPECTRUM, MOLECULAR STRUCTURE, HETEROCYCLIC NITROGEN COMPOUND, TERTIARY AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0187 STEP NO--UR/0393/70/006/001/0142/0142

CIRC ACCESSION NO--AP0130946
UNCLASSIFIED

CIRC ACCESSION NO--AP0130946

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF FETIDINE (I) WAS CONFIRMED BY MASS SPECTROMETRY. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DIFFERENCE IN N-H PROTON SIGNALS IN NMR SPECTRA OF INDOLE, INDOLINE, AND HYDROXYINDOLE ALKALOIDS -U-

AUTHOR-(03)-YAGUDAYEV, M.R., MALIKOV, V.M., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 89-90

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, INDOLE, INDOLE DERIVATIVE, NUCLEAR MAGNETIC RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0174 STEP NO--UR/0393/70/006/001/0089/0090

CIRC ACCESSION NO--AP0130933

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0130933

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CONSIDERABLE DIFFERENCE WAS FOUND IN THE N-H PROTON SIGNALS IN THE NMR SPECTRA OF VINCANINE, 2,16,19,20,TETRAHYDROVINCANINE, VINERVININE, AKUAMMICINE, 2,16,DIHYDROAKUAMMICINE, ERVAMINE, ERVINIDININE, DIHYDROERVINIDINE, COPSININE, PSEUDOCOPSININE, PICRININE, VINCARICINE, RESERPININE, ERVINE, O,ACETYLTCHROSINE, O,ACETYLININQUIMBINE, VINERVINE, MAIDINE, ISOMAIDINE, AND CARAPANAUBINE. THE POSITION OF THE N-H PROTON SIGNAL VARIES FROM TAU 6.50 WITH PICRIDINE UP TO TAU MINUS 0.69 WITH VINCANINE.
FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURE OF THALPHINE AND THALPHININE -U-

AUTHOR-(03)-ABDIZHABBAROVA, S., ISMAILOV, Z.F., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 279-80

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, CHEMICAL STRUCTURE, UV SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0439 STEP NO--UR/0393/70/006/002/0279/0280

CIRC ACCESSION NO--AP0132661

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132661

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF THE THALICTRUM FOETIDUM (MEADOW RUE) ALKALOIDS TALPINE (I) AND THALPHININE (II) WAS ESTABLISHED BY UV SPECTRA AND THE HOFMANN DEGRADATION. KMNO SUB4 OXIDN. OF I YIELDED THE 2,METHOXY,1,1 PRIME DIPHENYLOXIDE, 5,4 PRIME DICARBOXYLIC ACID (SIC), M. 290DEGREES; ME ESTER, M. 91-2DEGREES. CLEAVAGE OF I WITH NA LIQ. NH SUB3 AFFORDED LAUDANIDINE AND O-METHYLARMEPAVINE. FACILITY: INST. KHIM. RAST. VESHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURE AND STEROCHEMISTRY OF UNGERNIA ALKALOIDS STUDIED BY NMR -U-

AUTHOR-(03)-YAGUDAYEV, M.R., ABDUAZIMOV, KH.A., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 94-7

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0464 STEP NO--UR/0393/70/006/001/0094/0097

CIRC ACCESSION NO--AP0132679

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132679

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA OF UNGERINE, (I), DIHYDROUGERINE, HYPEASTRINE, HYPEASTRINE ACETATE, DIHYDROHYPEASTRINE (II), DIHYDROHYPEASTRINE ACETATE, AND UNSEVINE SHOWED THEIR B AND C RINGS TO BE CIS FUSED. IN II UNLIKE CLIVONINE, THE MEN GROUP IS SITUATED ABOVE THE BENZENE RING AND THE B-C RINGS ARE CIS FUSED. THE ORIENTATIONS OF H SUB5, H SUB5A, H SUB11B, AND THE OR GROUP AT C-5 WAS ESTABLISHED. NMR DATA ARE GIVEN. FACILITY: INST. KNIM. RAST. VECHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

Alkaloids

USSR

UDC: 547.944/945

KHASHIMOV, A. M., SHAKIROV, R., and YUNUSOV, S. YU., Order of Labor Red Banner Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Alkaloids of *Veratrum Lobelianum*"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 3, 1970, pp 339-343

Abstract: Alkaloids in the epigeal part of *Veratrum Iobelianum* grown in the valley of the Kar-Kara River are reported on for the first time. Upon separation of the total ethereal fraction isolated from the epigeal part of the plant (collection made on 13 May 1968), new alkaloids were differentiated as to solubility and basicity: veralosin $C_{35}H_{55}O_8N$, veralosinin and veralosidin $C_{27}H_{43}O_2N$. It was found that at the outset of the vegetative period, total alkaloids in the epigeal part of *Veratrum Iobelianum* is 2.5% of dry matter weight, and at the end of this period -- 0.036%. Based on study of chemical properties, infrared, ultraviolet, nuclear magnetic resonance, and mass spectra, and also conversion to tetrahydrosolasodin, the most probable structure and configuration is established for veralosidin.

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Alkaloids

USSR

UDC: 547.944/945

YAGUDAYEV, M.R., MALIKOV, V.M., YUNUSOV, S.YU., Order of Labor Red Banner Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Difference of N-H Proton Signals in the NMR Spectra of Indole, Indolene and Oxyindole Alkaloids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 89-90

Abstract: Data are given on the chemical shift of the N-H proton signal in the NMR spectra of vinca alkaloids. Twenty-three alkaloids were studied using the JNM-4H-100/100 instrument at room temperature with concentrations of 5-10% in a $CDCl_3$ solution with hexamethyldisiloxane as an internal standard. Dilution of a reserpinine solution by a factor of more than 3 (from 15 to 5%) shifts the N-H signal by only 0.15-0.20 m.d. Thus it may be assumed that a change in concentration in the 5-10% range has little effect on the chemical shift of the N-H proton. It was found that the chemical shift of the N-H proton signal in -methylenindolines differs appreciably from that in the indole alkaloids. As a rule, the N-H chemical shift in - methylenindoline alkaloids is observed in a weaker field (-0.69 - 1.20 m.d.) than is the case for indoles (1.75-2.15 m.c.), while the N-H chemical shift for oxyindole alkaloids occupies an intermediate place (0.56-2.18 m. d.). In the 2-16-dihydro derivatives of the -methylenindoline alkaloids and in copsinine, pseudo-copsinine, picrinine and vincaricine, the N-H proton signal

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USSR

YAGUDAYEV, M.R., et al, Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 89-90

shifts sharply toward a stronger field (5.50-6.50 m.d.). This important criterion may be successfully used for recognizing and identifying new vinca alkaloids and for structural analysis.

USSR

UDC: 547.94:543.51

RASHKES, YA.V., FAYZUTDINOVA, Z. SH., YUNUSOV, S.YU., Order of Labor Red Banner Institute of the Chemistry of Natural Compounds, Academy of Sciences Uzbek SSR

"Mass Spectrometry of Haplofoline and Foliline"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 107-110

Abstract: Data are given from an investigation of the mass spectra of alkaloids isolated from Haplophyllum tuberculatum: haplofoline, N-methylaplofoline, foliline and acetylfoliline. The principal paths of decay of these four compounds may be studied on the basis of localization of a positive charge on the nitrogen atom. Two decay schemes are described on the basis of the mass-spectroscopic data.

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UDC: 547.944/945

USSR

YAGUDAYEV, M.R., ABDUAZIMOV, KH.A., YUNUSOV, S.YU., Order of Labor Red Banner Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Investigation of the Structure and Stereochemistry of Ungernia Alkaloids by the Method of NMR Spectroscopy"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 94-97

Abstract: NMR spectroscopic data are given on ungerine, dihydroungerine, hippeastrine dihydrohippeastrine, acetyldihydrohippeastrine and unsevine to explain the stereochemical singularities and structure of their molecules. The spectra of all compounds were taken on the JNM-4H-100 instrument with a working frequency of 100 MHz in a $CDCl_3$ solution. The internal standard was hexamethyldisiloxane. It was found that the B/C rings in these compounds have the cis-arrangement. In contrast to the alkaloid clivonine, in dihydrohippeastrine the B/C rings have the cis-configuration and the $N-CH_3$ group is situated above the plane of the benzene ring. The orientation of the H_5, H_{5a} and H_{11c} protons and of the OR substituent associated with C_5 in the C-ring is established.

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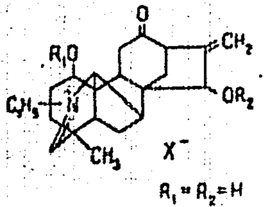
USSR

YUNUSOV, M.S., RASHKES, YA.V., YUNUSOV, S.YU., SAMATOV, A.S., Order of Labor Red Banner Institute of Chemistry,of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Mass Spectra of Alkaloids of the Songorine Type. Structure of Songoramine"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 101-107

Abstract: Analysis of alkaloid mixtures extracted from the tubers of Aconitum karakolicum which grow in the upper regions of the Tyup River (Terskey Altau Range) showed aconitine, songorine and an alkaloid with a melting point of 211-212°C. This base is identified as songoramine. Astudy was made of the mass spectra of songorine, dihydrosongorine, their diacetates, N-desethylsongorine, deutero analogs of songarine and dihydrosongorine. Analysis of chemical and spectral data shows that songoramine has the following structure:



Diagrams are given showing the fragmentation of songorine and its derivatives.

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USSR

UDC 547.944/945

RAZZAKOVA, D. M., BESSONOVA, I. A., and YUNUSOV, S. YU., Order of the Labor Red Banner Institute of the Chemistry of Natural Products, Academy of Sciences UzSSR

"Folimin -- a Novel Alkaloid from Haplophyllum Foliosum"

Tashkent, Khmiya Prirodnykh Soyedineniy, No 1, 1972, p 133

Abstract: A new alkaloid was isolated from H. foliosum Vved after alumina chromatography of the non-phenolic fraction. This compound had mp 139-140°, was optically inactive and formed a hydrochloride, mp 171-172° and a picrate mp 193-194°. It was named folimin, and on the basis of UV, IR, NMR, and mass-spectroscopic data it was shown to be 4,8-dimethoxy-N-methyl-2-quinolone.

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USSR

UDC 547.944/945

VINOGRADOVA, V. I., ISKANDAROV, S., and YUNUSOV, S. YU., Order of the Labor Red Banner Institute of the Chemistry of Natural Products, Academy of Sciences UzSSR

"Ditermamine, a new Bimolecular Alkaloid From Thermopsis Lanceolata"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1972, pp 87-92

Abstract: From the Plant portion of Thermopsis Lanceolata, a new bimolecular alkaloid of the quinalizidine series was isolated, in addition to thermopsamine, thermopsine, citizine, N-methylcitizine, pachycarpine and rhombifoline. On the basis of NMR and mass-spectroscopic studies of this alkaloid and its hydrogenated derivatives, plus the fact that on vacuum distillation it yields thermopsine, this product was identified as Δ 5',6'-dehydro-α-isolupanyl-5'-thermopsin-3.

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USSR

UDC 547.944/945 + 543.51

YUNUSOV, M. S., RASHKES, YA. V., and YUNUSOV, S. YU., Order of the Labor Red Banner Institue of the Chemistry of Natural Products, Academy of Sciences UzSSR

"Fragmentation Features of Ring A Substituents of Lycoctonin Alkaloids On Electron Impact"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1972, pp 85-87

Abstract: By studying mass-s½ectroscopic fragmentation of lycoctonin alkaloids it was established that the ease with which a substituent at C-1 is eliminated depends on its configuration, increasing with the size of the substituent. Changing the orientation of a C-1 substituent from α to β stabilizes the molecular ion and as a result the peak at M-17 is decreased, while the one at M-15 is increased. Temperature changes have little or no effect on the intensity of various peaks. Mass spectral data of carbinolamine esters of three diterpene alkaloids useful in characterizing the substituent at C-4 are reported.

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USSR

UDC 547.944/945

YAGUDAYEV, M. R., MATKHALIKOVA, S. F., AMLIKOV, V. M., YUNUSOV, S. YU., Order of the Red Banner of Labor Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences

"Study of the Stereochemistry of the Alkaloids of Codonopsin and Codonopsinin by the Method of Nuclear Magnetic Resonance Spectroscopy"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 495-498

Abstract: A structure was proposed previously for the new alkaloids -- codonopsin (I) and codonopsinin (III) isolated from Codonopsis clematidea on the basis of chemical transformations and spectral data (S. F. Matkhalikova, et al., KhPS, 30, 1969; S. F. Matkhalikova, et al., KhPS, 210, 1971). A study has now been made of the nuclear magnetic resonance spectra of the bases and their acetyl derivatives in order to establish the spatial structure of these alkaloids. The N-methylpyrrolidine ring A has a semicruciformation with relative reciprocal arrangement and orientation of the protons and H_1 and H_3-α groups pseudoequatorial, H_2 and Ph-β equatorial, and C-CH_3-β pseudoaxial, OR_1-α pseudoaxial, OR_2-β pseudoaxial and H_4-α pseudoaxial.

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USSR

UDC 547.944/945

NARZULLAYEV, A. S., YUNYSOV, M. S., YUNUSOV, S. YU., Order of the Red Banner of Labor, Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences

"Delphinium Dictyocarpum Alkaloids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 498-502

Abstract: A study was made of Delphinium dictyocarpum alkaloids. From the roots of the D. dictyocarpum gathered in the vicinity of Topolevka, Dzhungarskiy Alatau (flowering stage), methyllicaconitine, licoctonine and the bases II and III were isolated; by chloroform extraction of the above-ground part of the D. dictyocarpum gathered in the Koktal Highlands, Kuyandysay and Dzhungarskiy Alatau (budding stage) 0.58% of the total alkaloids were obtained from which methyllicaconitin, eldelin, eldelidine and a new alkaloid called dictyocarpine (I) $C_{26}H_{39}O_8N$ with a melting point of 210-212°, M 493 (mass spectrometrically were obtained. By comparing the nuclear magnetic resonance and mass spectra of dictyocarpine, its amino alcohol and diacetate with eldeline, eldelidine and eldeline acetate, the licoctonine skeleton was established for the I with a methoxyl group on the C_1, the c-methyl group

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USSR

NARZULLAYEV, A. S., et al., Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 498-502

on C_4, acetoxyl group on C_6, methylenedioxy-group on C_7 and C_8 and hydroxyl groups on C_{10} and C_{13}. The position of one of the methoxyl groups was not determined. Studies of the mass and nuclear magnetic resonance spectra of base II and its diacetate resulted in the following formula for II:

$$C_{19}H_{21}(>N-CH_2-CH_3)(OH)_4(OCH_3)_3.$$

USSR

UDC 547.944

MIRZAMATOV, R. T., MALIKOV, V. M., LUTFULLIN, K. L., YUNUSOV, S. YU., Order of the Red Banner of Labor, Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences, Andizhan State Medical Institute imeni M. I. Kalinin

"Study of Physochlaina Dubia Alkaloids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 493-495

Abstract: Chloroform extraction was used to isolate 1.25% of the total alkaloids from the roots of Physochlaina dubia Pasch. (Ph. alaica E. Korot.) gathered in the flowering phase in the Fergan Oblast. By separating the mixture of bases by solubility in organic solvents, hyoscyamine and a new base I were obtained. The new base had a melting point of 61-62° (benzene), $[\alpha]_D^{20}$ -- 13.5° (with 1.9 methanol), the bromohydrate with a melting point of 156-157° (acetone). The infrared, ultraviolet, nuclear magnetic resonance and mass spectral data and chemical properties of the base I indicate it has the structure of 6-oxyhyoscyamine

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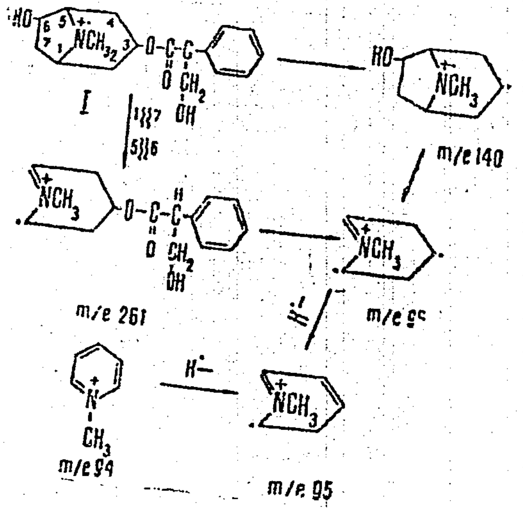
USSR"

MIRZAMATOV, R. T., et al., Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 493-495



2/2

USSR

UDC 51:621.391

ARIPOV, M. N., and YUNUSOV, SH. Z.

"'Mass' Probability Distribution of Coded Transmission Distortions"

V sb. Vopr. kibernetiki (Questions in Cybernetics -- Collection of Works), Vyp. 51, Tashkent, 1972, pp 162-166 (from RZh-Matematika, No 3, Mar 73, Abstract No 3V465 by Yu. PYATOSHINO)

Translation: The article presents an experimental histogram for variations in the length of a pulse transmitted over a certain communication channel and presents a formula for its approximation. This permits an evaluation of the probability of erroneous reception.

1/1

USSR

ARIPOV, M. N., YUNUSOV, Sh. Z.

"Distribution of Probabilities of the "Mass" of Distortions of Code Samples"

Vopr. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 51, Tashkent, 1972, pp 162-166 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V465 by Yu. Pyatoshin).

Translation: An experimental histogram is presented for the change in duration of a pulse transmitted through a certain communications channel, and a formula is suggested for its approximation. This allows the probability of false reception to be estimated.

USSR y UDC 621.395.44

ARIPOV, M. N., and YUNUSOV, SH. Z.

"On Non-Equiprobability of Distortions of Code Combinations in Telegraph Communications"

V sb. 4-ya Konferentsiya po teorii peredachi i kodir. inform. Sekts 5 (4th Conference On The Theory of Transmission and Encoding of Information. Section 5 - Collection of Works), Moscow-Tashkent, 1969, pp 30-33 (from RZh-Elektrosvyaz', No 4, Apr 70, Abstract No 4.64.257)

Translation: Code combinations with an unequal probability of distortion in telegraphic communications were investigated, by which it is possible as a first approximation to judge the statistical structure of pulse noise in the channels of voice-frequency carrier telegraphy. The results of two series of measurements were subjected to statistical processing. During measurements of the first series on channels of a TT-12/16 system with frequency modulation, test texts which were transmitted in the two directions of communication were composed, taking accont of the identical frequency for all codes of 5-element combinations. During measurements of the second series on channels of a ChVT (expansion unknown)* system, separate code combinations were transmitted, the
1/2

USSR

ARIPOV, M. N., et al., V sb. 4-ya Konferentsiya po teorii peredachi i kodir. inform., Sekts, Moscow-Tashkent, 1969, pp 30-33 (from RZh-Elektrosvyaz', No 4, Apr 70, Abstract No 4.64.257)

distortions of which were revealed by an analysis of the accepted text. Data on the extent of measurement and the distance of the routes tested are presented in tables. B. B.

*possible garbled for VChT (high-frequency telephone)

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USSR UDC 539.194.536.27

YUNUSOV, T. K., LEONT'YEV, V. B., KAMAYEV, F. G., ASLANOV, KH. A., SADYKOV, A. S., Tashkent Order of the Red Banner of Labor State University imeni V. I. Lenin

"Conformational Conversions of Lupinin and Tropin Alkaloids During the Formation of N-Oxides"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 477-483

Abstract: Experiments were performed in which N-oxides of lupinin and tropin were obtained under light conditions by mixing the initial bases with 5% H_2O_2 at room temperature. Lupinin forms two isomeric N-oxides the separation of which is realized by solubility, and the individuality is checked by chromatography on a thin layer of Al_2O_3 (the benzene-ether-methanol system, 5:2:1).

The infrared, mass and paramagnetic resonance spectral data indicate that the first isomer $N \rightarrow O$ of lupinin has trans-conformation with a,a $N \rightarrow O$, the axial-CH_2OH group with an intramolecular hydrogen bond between $> N \rightarrow O$ CH_2OH, and the second isomer, cis-conformation with a, e $N \rightarrow O$, axial CH_2OH

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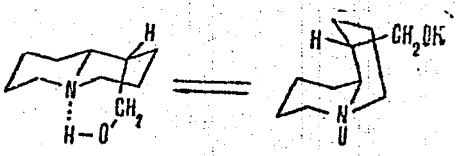
USSR

YUNUSOV, T. K., et al., Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 477-483

and with an intramolecular hydrogen bond between > N → 0 and the CH_2OH fragments:



a,a e,a

2/2

1/2 017

UNCLASSIFIED

TITLE--MONOSACCHARIDE HYDROGENATION CATALYST -U- PROCESSING DATE--27NOV70

AUTHOR-(04)-SOKOLSKIY, D.V., YUNUSOV, U.I., BIZHANOV, F.B., KHISAMETDINOV, A.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R 266,733
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SACCHARIDE, PATENT, CATALYTIC HYDROGENATION, CATALYST, NICKEL, ALUMINUM, IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1792 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132058

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0132058
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HYDROGENATION CATALYST FOR MONOSACCHARIDES CONSISTED OF NI, AL, AND FE, WITH 2 WT. PERCENT MN ADDED. FACILITY: KAZAKH CHEMICAL TECHNOLOGICAL INSTITUTE.

UNCLASSIFIED

USSR

YUNUSOV, Z. R., Candidate of Medical Sciences, BRUSILOV, G. I. and YAKOVENKO, V. I., Chair of Normal Physiology, and Electrophysiology Division, Central Scientific Research Laboratory, Tashkent Medical Institute

"Venous Tone of the Lower Extremities and Methods of Determining It"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 8, Aug 70, pp 18-20

Abstract: A method is described for determining venous tone from orthostatic distensibility of the veins. The results obtained using this method are very close of those obtained on the basis of changes in the Mr and Mh indices of arterial pressure in Hellong's orthostatic test. A special cuff is applied to the thigh of the recumbent subject. The cuff is connected through a tee to a manometer and tank with compressed air. When the cock is opened, air is quickly forced into the cuff, creating a pressure of 300 to 350 mm Hg. The subject then assumes a vertical position and lowers one leg into a special vessel filled with water, up to the top third of the leg. The initial volume of the leg to the top third is determined from the amount of water flowing out into a measuring cylinder. The pressure in the cuff is then reduced to zero. The increase in the hydrostatic pressure of the column of blood causes the

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USSR

YUNUSOV, Z. R., et al., Meditsinskiy Zhurnal Uzbekistana, No 8, Aug 70, pp 18-20

veins to dilate, increasing the volume of the extremity. The ratio of the displaced volume of water to the initial amount (%) is equivalent to the orthostatic distensibility of the veins and serves as an inverse indicator of their tone.

1/2 025
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--TOXIC EFFECTS OF ISOPROPYL NITRITE AND ISOPROPYL NITRATE -U-

AUTHOR-(02)-YUNUSOVA, KH.K., ARKHIPOVA, O.G.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 110-12

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ISOPROPYL NITRATE, NITRITE, TOXICITY, LIVER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0047
STEP NO--UR/0390/70/033/001/0110/0112

CIRC ACCESSION NO--AP0103727
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0103727
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. ON MICE AND RATS SHOWED THAT INHALED ISOPROPYL NITRITE WAS MORE TOXIC THAN ISOPROPYL NITRATE, WITH MEDIAN LETHAL CONCNS. OF 2700 AND 29,000 MG-M PRIME3, RESP. ISOPROPYL NITRATE DID NOT INDUCE METHEMOGLOBIN FORMATION IN THE BLOOD. THE BULK OF INHALED ISOPROPYL NITRATE WAS RESORBED IN THE LUNGS, BUT A FRACTION WAS REDUCED TO ISOPROPYL NITRITE IN THE LIVER.
FACILITY: INST. GIG. TR. PROFZABOL., MOSCOW, USSR.

UNCLASSIFIED

UDC 547.944/945

USSR

NARZULLAYEV, A. S., YUNYSOV, M. S., YUNUSOV, S. YU., Order of the Red Banner of Labor, Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences

"Delphinium Dictyocarpum Alkaloids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 498-502

Abstract: A study was made of Delphinium dictyocarpum alkaloids. From the roots of the D. dictyocarpum gathered in the vicinity of Topolevka, Dzhungarskiy Alatau (flowering stage), methyllicaconitine, licoctonine and the bases II and III were isolated; by chloroform extraction of the above-ground part of the D. dictyocarpum gathered in the Koktal Highlands, Kuyandysay and Dzhungarskiy Alatau (budding stage) 0.58% of the total alkaloids were obtained from which methyllicaconitin, eldelin, eldelidine and a new alkaloid called dictyocarpine (I) $C_{26}H_{39}O_8N$ with a melting point of 210-212°, M 493 (mass spectrometrically were obtained. By comparing the nuclear magnetic resonance and mass spectra of dictyocarpine, its amino alcohol and diacetate with eldeline, eldelidine and eldeline acetate, the licoctonine skeleton was established for the I with a methoxyl group on the C_1, the c-methyl group

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USSR

NARZULLAYEV, A. S., et al., Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 498-502

on C_4, acetoxyl group on C_6, methylenedioxy-group on C_7 and C_8 and hydroxyl groups on C_{10} and C_{13}. The position of one of the methoxyl groups was not determined. Studies of the mass and nuclear magnetic resonance spectra of base II and its diacetate resulted in the following formula for II:

$$C_{19}H_{21}(>N-CH_2-CH_3)\ (OH)_4\ (OCH_3)_3.$$

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1/2 019
UNCLASSIFIED
PROCESSING DATE--09OCT70
TITLE--PHOTOCHEMICAL REARRANGEMENT OF DIALKYLAMINO CHLORO QUINONES INTO BENZ (2, 1 D),2, 3, OXAZOLINE DERIVATIVES -U-
AUTHOR-(02)-YUODVIRSHIS, A.M., FOKIN, YE.P.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA KHIMICHESKIKH NAUK, 1970, NR 2, PP 124-128
DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOTOEFFECT, AMINO, CHLORINATED ORGANIC COMPOUND, QUINONE, CHEMICAL DECOMPOSITION, FORMALDEHYDE, DEALKYLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1876
STEP NO--UR/0289/70/000/000/0124/0128

CIRC ACCESSION NO--AP0112856
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0112856
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IRRADIATION OF
3,5,6,TRICHLORO,2,DIMETHYLAMINO,1,4,BENZOQUINONE,
3,6,DICHLORO,2,5,BIS(DIMETHYLAMINO),1,4,BENZOQUINONE AND
3,6,DICHLORO,2,METHYLAMINO,5, DIMETHYLAMINO,1,4,BENZOQUINONE IN
SOLUTIONS WITH VISIBLE LIGTH GIVES THE UNSTABLE DERIVATIVES OF
BENZOXAZOLINE, THAT DECOMPOSE INTO THE DEALKYLATION COMPOUNDS OF THE
PARENT CHLORO, DIMETHYLAMINO,QUINONES AND FORMALDEHYDE.
FACILITY: NOVOSIBIRSK INSTITUT ORGANICHESKOY KHIMII SO AN SSSR.

UNCLASSIFIED

Lasers & Masers

USSR UDC 621.375.82

IGNATAVICHUS, M., KABELKA, V., PISKARSKAS, A., and YUOZAPAVICHUV, A.

"Use of Thin Phototropic Films for the Synchronization of a Neodymium Laser"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics -- Collection of Works), No 2, Novosibirsk, 1972, pp 61-66 (from RZh-Fizika, No 11, Nov 72, Abstract No 11D891)

Translation: The oscillation of a Nd glass laser with a synchronization of modes produced by a thin phototropic film of polystyrene with polymethenyl dye introduced into it was investigated. With an initial film transmission of 60% the pulses generated with a total energy of ~0.1 joule consisted of 12-15 subpulses, the duration of which as determined from two-photon luminescence was ~4 psec. Total radiation modulation was observed in 7-8 out of 10 oscillation pulses. The smoothness of the spectrum (the spectral width of the radiation close to threshold was ~6 Å), the stability of the average wavelength of the radiation, and the ease of achieving oscillation in single-mode operation were noted; this is explained by the high degree of homogeneity of the polystyrene films. 3 ref. S. F. Sharlay.

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USSR

UDC 536.46:533.6

KALABUKHOV, G. V., RYZHIK, A. B., YURAMNOV, Yu. A., SIDOROV, V. M., OSIPOV, B. R., FAYERMAN, S. N.

"On the Effect of Reaction-Kinetic Properties of an Inflammable Flow in the Combustion of Aluminum Powders"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 204-206 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B969)

Translation: Shock tube studies were made of the combustion of aluminum powder when detonation waves act on it. These waves differ in intensity and chemical composition. It was established that the increase in the detonation rate of the gas mixtures impedes combustion to a greater degree than the detonation temperature is lowered. The positive effect of oxygen, carbon dioxide, and small quantities of nitrogen and argon on the combustion of disperse aluminum is noted. Rarefaction of the stoichiometric mixture of hydrogen and oxygen with light gases (hydrogen and helium) leads to a decrease in the degree of combustion of the powder. 5 ref. Authors' abstract.

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UDC 538.245

USSR

KORNEV, Yu. V., YURASOV, N. I., and BYKOV, G. P., Moscow, Higher Technical School imeni N. E. Bauman

"On the Role of Magnetic Microstructure for Ferromagnetic Resonance in a Conducting Ferromagnetic Layer. I. Character of the Skin Effect in Ferromagnetic Resonance Without Allowance for Magnetic Structure"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 9, 1970, pp 7-12

Abstract: A study of the properties of a ferromagnetic metal layer in an electromagnetic field yielded the simultaneous solution of Maxwell's equations and the equation of magnetic moment density variation. The latter was chosen in the Landau-Lifshits form with the relaxation term suggested by Hilbert. The usual local relation with homogeneous and isotropic static conduction was used for the conduction current density. The results indicate the anomalous character of the skin effect for the first mode and the presence of anomalous skin-effect features for the second and third modes in the range of fields used in practice. No allowance was made for the influence of the microstructure on the character of the skin effect. An evaluation of the influence of this factor will be given in the second part of the article. A "Minsk-22" digital computer was used for some of the calculations. S. A. Temirbulatov took part in the work.

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cc. Nr. **AA0108180** Abstracting Service: CHEMICAL ABST. 6-70

Ref. Code UR 0482

6

135549t Steel. Ozerskii, A. D.; Solntsev, Yu. P.; Galkin, M. F.; Myagkov, V. V.; Vladimirov, N. F.; Yurasov, S. A.; Nikonov, V. F.; Yakovenko, A. F.; Parfenovskii, A. B.; Kunitsa, S. S. U.S.S.R. 260,899 (Cl. C 22c), 06 Jan 1970, Appl. 02 Dec 1968; From *Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki* 1970, 47(4), 81. Steel with improved mech. properties consisted of: C 0.40–0.45, Si 0.5–0.7; Mn 0.5–0.8, Cr 1.5–1.8, V 0.3–0.5, Mo 0.9–1.2, impurities of S <0.03, and P $<0.03\%$, and Fe the remainder. MSCL

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REEL/FRAME

19891846

18 ck

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ATENSOMETRIC GENERATOR OF FREQUENCY MODULATED OSCILLATIONS -U-

AUTHOR--YURASOV, YE.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA, NO 2, 1970, PP 90-91

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., METHODS AND EQUIPMENT, NAVIGATION
TOPIC TAGS--OSCILLATION, FREQUQUENCY MODULATION, TRANSISTORIZED GENERATOR, ELECTRIC ROTATIN EQUIPMENT PART, TEST EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/1572 STEP NO--UR/0115/70/000/002/0090/0091

CIRC ACCESSION NO--AP0114160
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0114160

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE TESTING OF VARIOUS ROTATING PARTS, A NECESSITY ARISES FOR SMALL SIZE MEASUREING DEVICES WITH HIGH SENSITIVITY AND LOW NONLINEARITY OF THE CHARACTERISTICS. A PROPOSED TRANSISTORIZED INSTRUMENT FOR THIS PURPOSE IS DESCRIBED.

UNCLASSIFIED

USSR

UDC 628.312.3:628.445]:543.3

KORSH, L. Ye., Candidate of Medical Sciences, YURASOVA, O. I., Candidate of Medical Sciences, NIKONOVA, A. G., and MOTOVA, M. A., Institute of General and Communal Hygiene imeni A. N. Sysin, Academy of Medical Sciences USSR, Moscow

"Utilization of C^{14} for Rapid Determination of the Number of E. Coli in Water"

Moscow, Gigiyena i Sanitariya, No 9, 1971, pp 78-81

Abstract: In the new method, the concentration of E. coli in water samples is determined by means of a radioactive count of the CO_2 produced by bacteria suspended in a medium containing C^{14}-tagged glucose. The method was tested by adding a known number of bacteria (from 10 to 10,000) to metal containers with radioactive Endo and Rozolov media, incubating the samples at 42°C for 6 hours, removing the $Ba(OH)_2$ saturated filter with which the containers were covered and which absorbed CO_2, and determining the radioactivity of the filters. To correct for background activity, filters placed over sterile media were also measured. The plotted results yielded a linear correlation between bacterial concentration and radioactive counts. The small difference between the two media was due to the fact that CO_2 is less soluble in Endo medium than in Rozolov medium. Then bacterial concentrations in unknown water samples

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YURASOVA, O. I.

JPRS 55520
1 MAR 72

UDC: 614.777.648.18

THE PROBLEM OF DETERGENTS IN WATER HYGIENE AND SANITARY PROTECTION OF RESERVOIRS

[Article by Ya.A. Mozhayev, V.P. Osintseva, O.I. Yurasova, Yu.V. Lin'kov, N.N. Litvinov, L.M. Kopyrina; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 1, 1972, pp 42-47]

In the last few years a new branch of the chemical industry, production of synthetic surface active substances (SAS), has gained development in several countries, including the Soviet Union. These substances, which are often called detergents (from the Latin word, detergere, to purify), are used extensively in different branches of the economy, but especially in the production of synthetic washing agents. The latter products are intensively replacing the old traditional washing agent, soap, which appeared long befor our times. The great demand for synthetic SAS is due first of all to their high cleaning properties. They have a good cleaning action not only under ordinary conditions but also in an acid medium and (unlike soaps) in hard and even salt water. Washing agents based on synthetic SAS destroy and discolor material less than soap, and they have a washing action even at a wate temperature of 20-30° (S.M. Loktev, 1964).

Unlike the production of soap, no alimentary fats are needed to manufacture such agents, and this is important from the standpoint of the econom

However, industry's interest in synthetic SAS is not solely related t their washing properties. These agents have revealed a number of other valuable properties: emulsifying, wetting, they improve technological processes and th quality of production, so that they could be used in the petroleum, construction, chemical, textile, pharmaceutical, and other industries, as well as in agriculture. The economic desirability of using SAS is the reason for the consistent increase in production thereof; considerable expansion of such production is expected in the near future.

The manufacture and extensive use of SAS cannot help but result in appearance of these agents in the environment, especially in reservoirs of water, including sources of domestic and drinking water. At the present time, of th chemicals that pollute water reservoirs, SAS are perhaps the most widespread,

USSR

KORSH, L. Ye., et al., Gigiyena i Sanitariya, No 9, 1971, pp 78-81

were determined by the new method and by the standard culture method. The results differed by a factor of 1.5. Microbiological counts are known to vary as much as 200%. The new method is sensitive to within 10 bacteria in the Endo medium and 30-40 bacteria in the Rozolov medium, and the total procedure takes less than 7 hours. The radioactive method is recommended as reliable and convenient.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE ACTIVITY OF VARIOUS ATPASES OF KIDNEY HOMOGENATE DURING STORAGE
-U-

AUTHOR-(02)-BEKMUKHAMEDOVA, Z.U., YURASOVA, T.F.

COUNTRY OF INFO--USSR

SOURCE--UZB. BIOL. ZH. 1970, 13(6), 6-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY, RAT, ADENOSINE TRIPHOSPHATE, ENZYME ACTIVITY, SODIUM,
POTASSIUM, MAGNESIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0407 STEP NO--UR/9079/70/013/006/0006/0009

CIRC ACCESSION NO--AP0127978

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0127978
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES OF NA,K, AND MG,ATPASE DURING STORAGE OF KIDNEY HOMOGENATE OF RATS WERE STUDIED. THE ENZYME ACTIVITY AFTER LONG STORAGE DECREASED. FACILITY: INST. BIOKHIM., TASHKENT, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--IONIC COMPONENT OF THE CATHODIC SPUTTERING OF A COPPER SINGLE CRYSTAL -U-

AUTHOR-(05)-BUKHANOV, V.M., YURASOVA, V.YE., SYSOYEV, A.A., SAMSONOV, G.V., NIKOLAYEV, B.I.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2), 394-7

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--COPPER CRYSTAL, NEON, ION, CATHODE SPUTTERING, METAL SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0144 STEP NO--UR/0181/70/012/002/0394/0397

CIRC ACCESSION NO--AP0054940

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054940

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION IS DESCRIBED OF THE ANGULAR AND ENERGY DISTRIBUTIONS OF SECONDARY POS. IONS, KNOCKED OUT FROM THE (100) FACE OF CU BY NE IONS WITH ENERGIES OF 5 AND 20 KEV.

89

UNCLASSIFIED

USSR UDC 581.524.1+576.8

SERDYUK, L. S., and YURCHAK, L. D., Institute of Organic Chemistry, Academy of Sciences Ukrain~~ian SSR~~, and Central Republic Botanical Garden, Ukrainian SSR

"Allelopathic Effect of Melanins of Stachybotrys alternans"

Moscow, Prikladnaya Biokhimiya i Mikrobiologiya, Vol 7, No 2, Mar/Apr 71, pp 174-177

Abstract: Two melanin fractions (SA-1 and SA-2) were isolated from the biomass of the fungus Stachybotrys alternans grown on barley straw. SA-1 was extracted with 2 N or 0.5 N KOH from the fungi defatted by treatment with methylene chloride and then ground. It was precipitated from alkaline solutions by acidification to pH 4-5 with HCl. SA-2 was isolated from the fungus biomass, hydrolyzed by boiling for 12 hrs with 6 N HCl. The composition of SA-1 was C 75.23, H 10.85, N 2.10, O 11.82% MeO groups were absent. A solution of Sa-1 in 0.5 N KOH had a linear absorption spectrum at 400-600 nm ($tg \alpha = 0.0035$). The EPR spectrum of SA-1 indicated the presence of a stable free radical (half-width of line 8 oe). SA-2 had a similar linear spectrum at 400-600 nm ($tg \alpha = 0.0029$) and also formed a free radical in a

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USSR

SERDYUK, L. S., and YURCHAK, L. D., Prikladnaya Biokhimiya i Mikrobiologiya, Vol 7, No 2, Mar/Apr 71, pp 174-177

dilute KOH solution (half-width of the line 5 oe). SA-1 and SA-2 applied in concentrations of 0.1-2% to seedlings of wheat, rye, and cress plants inhibited the growth of roots to an extent which increased with increasing concentration of melanin fractions. The growth of roots was suppressed 100% for rye and cress at a 2% concentration of either melanin fraction. The effect on wheat was somewhat less pronounced. SA-2 was more effective in inhibiting the growth of roots than SA-1. Cress was more sensitive to the effect of melanin fractions than either wheat or rye, showing SA-2. In tests conducted on seedlings, solutions of SA-1 and SA-2 in 0.05 N KOH were applied.

2/2

USSR

UDC: 536.2:536.63

MEBED, M. N., YURCHAK, R. P., KOROLEV, L. A., Moscow State University imeni M. V. Lomonosov

"Thermophysical Properties of Zirconium Carbide in the High Temperature Region"

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 2, Mar/Apr 73, pp 427-429

Abstract: Experimental data are given on the temperature coefficient of thermal conductivity, specific heat, and heat conduction of two specimens of zirconium carbide with experimental error of 5, 4 and 9% respectively. The first specimen was made by cold pressing at 1.5-2 tons per sq. cm followed by sintering in argon at 2400°C for two hours. Chemical composition (in %): Zr-86.3, C_{tot}-11.5, W-0.48, N-0.01, O-0.51. Stoichiometry was 0.95. The second specimen was made by hot pressing the powder and sintering in a vacuum at 2100°C and 50 kg per sq. cm for 30 minutes. Chemical composition: Zr-87.4, C_{tot}-10.9, W-0.6, N-0.17, O-0.34. Stoichiometry 0.85. Analysis of the results shows that the Lorentz number for these materials is much higher than the theoretical value for metals, and

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USSR

MEBED, M. N. et al., Teplofizika Vysokikh Temperatur, Vol 11, No 2, Mar/Apr 73, pp 427-429

remains practically unchanged with temperature. Separation of the experimental heat conduction into electron and phonon components showed that the phonon component comprises about 25% and 35% of the total heat conduction for the first and second specimens respectively. The phonon heat conduction shows practically no change with temperature, while the electron component increases linearly with temperature.

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1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF THE HEAT CAPACITY BY A RADIAL TEMPERATURE WAVE
METHOD -U-
AUTHOR-(02)-YURCHAK, R.P., FILIPPOV, L.P.

COUNTRY OF INFO--USSR

SOURCE--IZMER. TEKH. 1970, (3), 41-2

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT CAPACITY, IRON, LEAD, LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1132
STEP NO--UR/0115/70/000/003/0041/0042

CIRC ACCESSION NO--AP0136552
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136552

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR THE DETN. OF HEAT CAPACITY FROM PERIODICALLY PULSING TEMP. CURVES IS DESCRIBED. THE STRAIGHT INCREASING OR DECREASING LINES, CORRESPONDING TO THE CONST. SPEED OF HEATING, ARE USED FOR THE CALCN. OF HEAT CAPACITY INSTEAD OF USING THE TEMP. AMPLITUDE. THE HEAT CAPACITY C SUBP IS CALCD. BY MEANS OF THE FOLLOWING FORMULA: SHOWN ON MICROFICHE. THE RESULTS OBTAINED IN THIS WAY BE TESTING ARMCO FE AND LIQ. PB SAMPLES AGREED WITH THOSE OF THE PREVIOUS CALCN. METHOD.

UNCLASSIFIED

USSR

UDC (621.313.322+621.314.222.6)-182.7

MOROZOV, N. R., POLYAKOV, S. I., YURCHAKEVICH, YE. R.

"Adjustment of the Electric Part of the 200 Megawatt Units of Burshtyn State Regional Electric Power Plant"

Moscow, Naladochn. i eksperim. raboty ORGRES -- V sb. (Adjustment and Experimental Operations of ORGRES /State Trust for the Organization and Rationalization of Regional Electric Power Plants and Networks/ -- Collection of Works), Vol 39, 1970, pp 260-266 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 Ye116)

Translation: Twelve units with a total capacity of 2.4 million kilowatts (including the TGV-200 generator, the K-200-130 turbine, and the TP-100 boiler) have been installed at the Burshtyn GRES /State Regional Hydroelectric Power Station/. Ion excitation of the generators is used. Six units are connected to the 220-kv outdoor distributing system and six to the 330-kv outdoor distributing system. During adjustment operations, the corresponding circuits were analyzed from the point of view of operating relia-

USSR

MOROZOV, N. R., et al, Naladochn. i eksperim. raboty ORGRES -- V sb., Vol 39, 1970, pp 260-266

bility of the unit and convenience of operation. To reduce the electric testing time for the generator-transformer module, several new test and check procedures were proposed. During adjustment, certain defects were detected, for example, low-quality soldering of the stator winding conductors of generator No 5, deficiencies in the operation of the antivibration gas relays RGChZ-66 and so on. When adjusting the 6-kv medium voltage electrical equipment, the locations of the shields were selected considering the possible self-starting currents of the electric motors. Instead of the ET-521 relay, the synchro shield of a series of electric motors of blocks 1-6 was made from the RNT-562 relay. The shield for the 2,000-kilowatt motors is based on the RNT-565 relay. For the 380-volt electric motors, AV and AVM automatic breakers were used. The sets of shields from the zero sequence current transformers were adjusted considering the maximum load and a single-phase short circuit on the line end.

USSR

MOROZOV, N. R., *et al*, *Naladochn. i eksperim. raboty ORGRES -- V sb.*, Vol 39, 1970, pp 260-266

The shield of the 6/0.4-kv step-down transformers, from a single-phase short circuit to ground in the 0.4-kv network, was made from a relay with the dependence characteristic RT-84/2. To protect the low-power motors, the AP-50 automatic switches with combined tripping devices are provided. SK-32 storage batteries are installed to supply the 220-volt direct current. The generators (in the asynchronous mode and under thermal conditions) were subjected to special tests. It was discovered that the asynchronous mode of operation is not dangerous for the generators of the GRES, and the temperatures of the stator and rotor windings do not exceed the allowable limits. There are two illustrations and a four-entry bibliography.

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YURCHENKO, A.

KGB

REUSE OF SECONDARY RAW MATERIALS MUST BE IMPROVED

[Article by A. Yurchenko, Chief of the Subdivision of the USSR State Planning Committee: "Important Production Potential"; Moscow, Material'no-Tekhnicheskoye Snabzheniye, Russian, No 11, 1971, pp 11-16]

> "To more fully utilize in the national economy secondary raw material and fuel-power resources and production waste (ferrous and nonferrous metal scrap and waste, waste paper, secondary textile materials, broken glass, worn out tires, polymeric materials, chemicals, and other types of the secondary resources of raw materials and supplies). To improve the techniques of processing secondary raw materials. To strengthen the material and technical base of the organizations that procure secondary raw materials and production waste and to improve the organization of the acceptance of secondary raw materials from the population."
>
> (From the directives of the 24th Party Congress for the Five-Year Plan for the Development of the National Economy of the USSR for 1971-1975)

In the interest of the fullest satisfaction of the needs of the Soviet people and the provision of a considerable rise in their material and cultural living standard, socialist industrial production will develop at high rates in the Ninth Five-Year Plan. The directives of the 24th Party Congress stress that one of the basic tasks of industry in the new 5-year period is to expand and improve the industrial base of the socialist economy.

An improvement in the utilization of raw materials, supplies, fuel, and electric and thermal power is the most important means of increase in industrial production and in its efficiency. With the vast scale of our industrial production every percent of the saving of material and technical resources provides great economic benefits. The utilization in industrial production of secondary raw materials, whose considerable resources are formed in enterprises, organizations, institutions, and among the public, provides an appreciable saving of raw material and monetary resources.

JPRS 54852 #321 Jan 4, 72

UDC 77

USSR

KARTUZHANSKIY, A. L., YURCHENKO, A. F.

"Certain New Data on the Kinetics and Natural Aging Mechanism of Photoemulsion Layers"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 134-139 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1338)

Translation: The results of a comparative study of the aging of the same photoemulsion layers with respect to the action of various types of exposure radiation (light, α- and β-particles) and also the dependence of aging kinetics under these conditions on emulsion and extra-emulsion factors are discussed. The basic conclusions of the discussion are two new hypotheses concerning the natural aging mechanism: (1) during aging there can occur a previously unknown process (the authors have called it "redistribution aging") of the partial migration of sensitivity centers from the surface into the depth of the crystals, ordinarily not having a considerable effect on the change in light sensitivity under storage of

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USSR

KARTUZHANSKIY, A. L., YURCHENKO, A. F., Uspekhi nauchn. fotogr., 1970, Vol. 14, the photographic materials but playing an important role in the change of sensitivity to nuclear particles; (2) during the course of aging there occur processes not only associated with the change in the dimensions of sensitivity centers (growth, dissipation, redistribution), but also touching only the conditions for the functioning of these centers (lowering their potential barrier with adsorbed molecules, producing competing electron showers, etc.). Differences exist between the two groups of processes with the aid of which they submit to division in practice: the first are always irreversible, while the second are as a rule reversible; the kinetics of the first always correlate with the regression kinetics under the same conditions, since the rate of aging is less than the rate of regression, while for the second, this relationship for the velocities (sometimes the kinetics correlation) is not necessary. 12 references. Authors abstract.

USSR UDC 77

KARTUZHANSKIY, A. L., TROFIMOVA, L. G., YURCHENKO, A. F.

"Secondary Processes in the Aging of Photographic Layers"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Prircda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 171-184 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1325)

Translation: The results of experiments to isolate and identify the separate processes occurring in photographic layers under storage and complicating the elementary picture of aging as the growth of all sensitivity centers under normal aging and the dissipation of all sensitivity centers in anomalous aging are considered. The process caused by the change in the size of the sensitivity centers (the growth of deep centers due to surface centers) and essential in those cases of exposure when the participation of deep sensitivity centers is considerable (the action of brief exposure and of ionizing particles) is explained.

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USSR

KARTUZHANSKIY, A. L., et al, Mezhdunar. Kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat, no year given, pp 171-194

Also explained is the existence of processes not associated with a change in the dimensions of the sensitivity centers but with conditions for their functioning. Among these is the effect of moisture, the adsorption of which not only lowers the height of the potential barrier of the sensitivity centers but also affects deep sensitivity centers (without contacting them) by changing their equilibrium with surface sensitivity centers. Included in this group of processes is the effect of an optical sensitizer, which in the initial form has p-type acceptor properties and does not compete with surface sensitivity centers but forms a complex with O_2 in the course of aging, taking on electron-acceptor properties and competing with surface sensitivity centers the more a part of it goes into the complex. 12 references. A. L. Kartuzhanskiy.

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USSR UDC 620.183.48

ITIN, V. I., KOZLOV, Yu. I., PUGINA, L. I., YURCHENKO, A. G., SAVITSKIY, K. V. (Deceased), and FEDORCHENKO, I. M., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Study of the Sintering, Structure and Phase Composition of Nickel Alloy-Base Metal-Graphite Materials. Report 1. Study of the Sintering Process of Nickel-Base Materials and Both the Structure and Phase Composition of Nickel-Copper-Graphite Alloys"

Kiev, Poroshkovaya metallurgiya, No 10, Oct 71, pp 26-31

Abstract: The study concerns the process of sintering as well as phase and structural changes occurring during sintering in Ni alloy-base metal-graphite materials. The experimental materials comprised 80% Ni and 20% Fe or 20% Cu with 30 and 50% (by vol.) graphite. The addition of graphite to Ni-Cu and Ni-Fe alloys markedly reduces both the amount of shrinkage and its rates during sintering. With 50% graphite the compression gives way to volumetric growth. Cu additions result in greater volumetric growth than Fe additions. The major cause of volumetric growth is believed to be the formation of inclusions isolated between particle surfaces, interaction with oxides to form gases, and desorption gases from the graphite resulting in a breakdown

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ITIN, V. I., et al., Poroshkovaya metallurgiya, No 10, Oct 71, pp 26-31

of contacts. Graphite additions cause the separation of Cu and Ni particles and reduce the alloy's homogeneity. In Cu-Ni alloy-base metal-graphite materials, graphite becomes an inert addition and spreads over the structure in the form of a separate inclusion in the metal matrix -- the solid solution of Cu in Ni. (5 illustrations, 5 bibliographic references)

USSR

UDC 621.762.53

YURCHENKO, A. G., PUGINA, I. I., and KOVAL'CHENKO, M. S.,
Institute of Problems of Material Science, Academy of Sciences,
Ukrainian SSR

"Hot Pressing of Materials With High Graphite Content"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 71, pp 37-39

Abstract: The purpose of this work was to study the process of hot pressing of metal-graphite compositions based on an iron-nickel alloy with 30 vol.% graphite and to determine the optimal technological modes for this process. Hot pressing of mixtures of powders of iron, nickel, and graphite was performed using a lever mechanical press in graphite molds at 1000 and 1100°C under pressures of 100, 150, and 200 kg/cm^2. It was established that the optimal hot pressing mode is 1100°C, 150 kg/cm^2. Use of this mode allows specimens with densities of 93-94% to be achieved. It is demonstrated that the compacting of materials in hot pressing can be described by volumetric viscous flow.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DOUBLE FRAGMENTATION OF AN ADAMANTANE RING -U-

AUTHOR-(04)-STEPANOV, F.N., SUKHOVERKHOV, V.D., BAKLAN, V.F., YURCHENKO, A.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 884-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADAMANTANE, AROMATIC CARBOXYLIC ACID, CATALYST, ZINC, THERMAL DECOMPOSITION, BROMINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2161 STEP NO--UR/0366/70/006/004/0884/0885

CIRC ACCESSION NO--AP0125744
UNCLASSIFIED

2/2 012

UNCLASSIFIED

CIRC ACCESSION NO--AP0125744 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 1,3,BIS(BROMOMETHYL),5,7,DIBROMOADAMANTANE (I) WITH POWD. ZN GAVE 1,3,5,7,TETRAMETHYLENECYCLOOCTANE (II). BROMINATION OF II IN CCL SUB4 GAVE I. THE REACTION OF II WITH HBR GAVE 1,3,DIBROMO,5,7,DIMETHYLADAMANTANE. THE REACTION OF II WITH HCO SUB2 H IN 1PERCENT OLEUM GAVE 1,3,DIMETHYLADAMANTANE,5,7,DICARBOXYLIC ACID. CATALYTIC ALLENE TETRAMERIZATION GIVES 1,3,4,6,TETRAMETHYLENECYCLOOCTENE, NOT II, AS REPORTED BY I. WILLIAMS, ET AL., (1962). FACILITY: KIEV. POLITEKH. INST., KIEV, USSR.

UNCLASSIFIED

Powder Metallurgy

USSR

YURCHENKO, A. G., SHCHERBAN', N. I., and PUGINA, L. I., Institute for Problems of Material Science, Academy of Sciences Ukrainian SSR

"Elastic Aftereffect of Iron-Graphite Pressed Parts in Cold Pressing"

Kiev, Poroshkovaya Metallurgiya, No 5, May 70, pp 20-22

Abstract: Determinations were made of the radial elastic aftereffect in the pressing of iron-graphite materials based on brand PZh2M iron powder (All-Union State Standard 9849-61) containing 3 to 30% by mass of graphite as the second component. A hydraulic press with a force of 200 tons was used in the experiments. Five or six samples of each composition were pressed under compacting pressures of from 10 to 100 kg/mm^2 in a mold with an outer die diameter of 70 mm and an inner one of 28 mm.

From the data obtained it was determined that with a rise in compacting pressure and a rise in the graphite content in the mixture, the elastic aftereffect of the material increases, but the general appearance of the relation is maintained with some decrease in the curvature of the lines. Consequently, the elastic aftereffect of two-component iron-graphite materials conforms with those regularities which are observed in the pressing of single-component materials based on iron. The data indicate that, in the process of cold pressing, the stresses in the region of contact between particles can be described by the Hertz theory, according to

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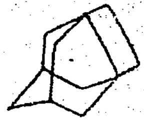
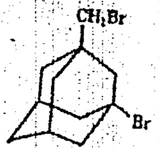
YURCHENKO, A. G., et al., Poroshkovaya Metallurgiya, No 5, May 70, pp 20-22

which the approach between centers of two ideally elastic spheres is proportional to the compressive force in the degree of 2/3.

AP0042035 Abstracting Service: Ref. Code
CHEMICAL ABST. 4/70 UR0366

89871s Photoisomerization of 3,7-dimethylenebicyclo[3.3.1]nonane. Yurchenko, A. G.; Voroshchenko, A. T.; Stepanov, F. N. (Kiev. Politekh. Inst., Kiev, USSR). *Zh. Org. Khim.* 1970, 6(1), 189-90 (Russ). The irradn. of 3,7-dimethylenebicyclo[3.3.1]nonane in Et_2O soln. contg. also 4% "Cu complex" gave 92-6% tetracyclo[$4.3.1.1^{4,8}.0^{1,4}$] undecane (I), the bromination of which without solvent gave 1-bromo-3-bromomethyladamantane (II).


(I)



(II)

CPJR

REEL/FRAME
19751932

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USSR

UDC: None (1)

KOVALENCHIK, D. I., LEONT'YEV, A. I., TIKHOMIROV, D. A., ZHMUROVA, S. V., and YURCHENKO, A. I.

"Memory Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 14, 1973, p 145, No 373717

Abstract: This analog-type memory device using a selsyn pickup has the distinguishing feature of having the program carrier fixed to the selsyn shaft, with the perforator and counting element on the opposite side of the carrier disc. The effect of this arrangement is to simplify the device.

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USSR

UDC 619:616.988.43:615.372

KRUGLIKOV, B. A., ANTONYUK, V. P., YURCHENKO, A. N., TRUNILIN, S. N., and KAZENOV, N. I., State Scientific Control Institute of Veterinary Preparations, Kok-Yangak Veterinary Station, Oshskaya Oblast

"Transport and Storage of Foot-and-Mouth Disease Vaccines"

Moscow, Veterinariya, No 5, May 71, pp 49-50

Abstract: In storing and transporting foot-and-mouth disease vaccines with aluminum hydroxide formaldehyde composition, the optimum temperature conditions (from +1 to +8°C) must be maintained. This is important when the vaccines are transferred from the production plant to the various veterinary stations, particularly in the spring and summer, when mass immunizations of cattle are performed in the Soviet republics of Central Asia and in the Transcaucasian region. Polyethylene bags of various sizes were tested for this purpose. For the transport of 4-5 liters of vaccine, polyethylene bags 800 mm long and 500 mm wide were most practical. Two such bags are used, one inside the other. The inner bag should be 150-200 mm smaller than the external one. The internal bag contains the vaccine and is surrounded by ice (in the external bag). Both bags are closed by a plastic ring on top. The filled bags are placed in precooled ice chests and cooling boxes. The proposed bags were used under conditions

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KRUGLIKOV, B. A., et al, Veterinariya, No 5, May 71, pp 49-50

of +21, +25, and +28°C and kept the temperature of the control flacon at +4°C to +7°C for a period of 6-8 hours. When a freezing mixture (ice+salt) instead of ice is used, the temperature of the vaccine flacons is kept at 2-4°C, but for a shorter time period because of breakdown of the ice crystals. The proposed double bags of polyethylene are cheap, convenient to use at any veterinary station, and sufficient for bringing the vaccine to the immunization site.

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USSR UDC: 539.374

KUNIN, N. F., YURCHENKO, B. D.

"Theoretical Studies of Internal Friction in Materials Subjected to Plastic Deformation"

Dokl. XXX Nauchno-tekhn. konferentsii. Mosk. in-t khim. mashinostr. T. 2, vyp. 1 (Reports of the Thirtieth Scientific and Technical Conference, Moscow Institute of Chemical Machinery, Vol. 2, No 1), Moscow, 1970, pp 43-46 (from RZh-Mekhanika, No 4, Apr 71, Abstract No 4V347)

Translation: The paper describes a method of determining the coefficient of internal friction in a material which is plastically deformed by upsetting. The model of a Newtonian viscous material is used for determining the coefficient of internal friction. Lateral flow in a specimen during upsetting is treated as laminar. The coefficient of internal friction in a deformable metal is assumed to coincide with the coefficient of viscosity η in a Newtonian model of viscous fluid. The method is based on determining the coefficient of viscosity from the amount of buckling of the lateral surface of a cylindrical specimen subjected to plastic upsetting.

Abstractor's Note: The coefficient of internal friction coinciding with the coefficient of viscosity in the Newtonian model of a viscous fluid

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KUNIN, N. F., YURCHENKO, B. D., Dokl. XXX Nauchno-tekhn. konferentsii. Mosk. in-t khim. mashinostr. T. 2, vyp. 1, Moscow, 1970, pp 43-46

should, according to this definition by the authors, be some physical constant of the material being considered. However, the proposed method of determining its value from the degree of barrel-shaped distortion of a cylindrical specimen during upsetting means that its value depends primarily on the conditions of contact friction during upsetting, rather than on the physical and mechanical properties of the material being deformed. In reality, as the contact friction decreases, the barrel-shaped distortion of the specimen during upsetting can be made as small as desired since the stressed and deformed state of the specimen in this connection can be made as close as desired to uniaxial compression. In this case, in accordance with the proposed method, the coefficient of internal friction may become arbitrarily great. Ye. M. Tret'yakov.

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USSR

UDC 621.891.22

KOVAL'CHENKO, M. S., TKACHENKO, Yu. G., YURCHENKO, D. Z., KLOCHKOV, L. A.,

Institute of Material Science Problems, Academy of Sciences, Ukrainian SSR, Kiev

"The Influence of Temperature on the State of the Surface Layer of Niobium Carbide During External Friction"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 45-48

Abstract: A study was made of the microhardness of the surface layer of niobium carbide after tests for friction and wear under conditions of high temperatures and a vacuum. These tests were made on samples of niobium carbide obtained by means of the pressing of powders with subsequent sintering. The composition of the samples was close to stoichiometric, the residual porosity comprised 10 to 12%. Some weakening was observed in the surface layer. As the temperature of the tests increases, the degree of weakening and the depth of the weakened layer increased. 2 figures. 1 table. 10 references.

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USSR UDC 621.791.046

SAMSONOV, G. V., YURCHENKO, D. Z., and BOVKUN, G. A.

"Investigating the Possibility of Using Refractory Alloys for Welding"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 70, pp 70-72

Abstract: Research conducted by the Institute for Problems of Material Science, Academy of Sciences UkrSSR, on developing alloys for welding, particularly those based on chromium carbides and borides, is described. Type numbers of such alloys are KBKh, BKh-2, KhR-19N, GK-15, and TBKKh. These alloys are wear-resistant. The purpose of the research was to consider the possibility of using the borides TiB_2, CrB_2, Mo_2B_5, and W_2B_5 as basic compounds of the alloys. To improve the alloy characteristics, the borides were mixed with type PZhlM iron powder. To increase the wear-resistance of welded layers, the alloys were strengthened by the addition of 15% by volume of B_4C. The article is illustrated by photographs of the microstructure of alloys consisting of 20% TiB_2, 15% B_4C, and iron. A table of various alloys and their relative wear-resistance after welding is also presented. The authors conclude that the addition of TiB_2 and B_4C gives optimal results for strengthening steel surface welding.

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1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ULTRAVIOLET AND VISIBLE ABSORPTION SPECTRA OF COMPLEXES OF
TRIVALENT METALS WITH ACETYLACETONATE AND ITS ANALOGS -U-
AUTHOR-(03)-YURCHENKO, E.N., AVDEYEV, V.I., SHUGAM, YE.A.

COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 84-90

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, METAL COMPLEX COMPOUND, ACETYLACETONATE, TITANIUM
COMPOUND, CHROMIUM COMPLEX, COBALT COMPLEX, ABSORPTION SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1168 STEP NO--UR/0379/70/006/001/0084/0090

CIRC ACCESSION NO--AP0128590
UNCLASSIFIED

2/2 018
CIRC ACCESSION NO--AP0123590
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRA OF ACETYLACETONATES
(ACAC) OF TI, CR, AND CO WERE CALCD. BY USING THE MO LCAO METHOD OF
MULLIKEN-HELMHOLZ-WOLFSBERG IN THE SCF APPROXN. ACCORDING TO THE
ORBITALS OF THE METAL, AND THE COORDINATED O ATOM. THE SINGLE ELECTRON
ENERGY LEVEL SCHEMES OF TI(ACAC) SUB3, CR(ACAC) SUB3, AND CO(ACAC) SUB3
AND THE ASSIGNMENTS OF THE TRANSITIONS ARE GIVEN. THE CALCD. WAVENOS.
OF THE TRANSITIONS AND THE OSCILLATOR STRENGTHS ARE COMPARED WITH THE
EXPTL. VALUES. THE COMPARISON OF THE SPECTRA OF THE 3 COMPLEXES ENABLED
A MORE OBJECTIVE INTERPRETATION OF THE BANDS. SIMILARLY THE COMPLEXES
OF TI, CR, AND CO WITH DIBENZOYLMETHANE (DBM) WERE CALCD. IN THE SINGLE
ELECTRON ENERGY LEVEL SCHEMES OF THE COMPLEXES TI(DBM) SUB3, CR(DBM)
SUB3, AND CO(DBM) SUB3 THE LEVELS OF THE CORRESPONDING ACETYLACETONATES
ARE RETAINED. ALL PECULIARITIES IN THE LONGWAVE TRANSITIONS OF
ACETYLACETONATES WERE CHARACTERISTIC FOR THE DMB COMPLEXES. THE SPECTRA
OF THE DIBENZOYLMETHANES DIFFER MAINLY FROM THAT OF ACETYLACETONATES BY
THE OCCURRENCE OF THE BENZENE LEVELS, NAMELY BY THE TRANSITION PHI SUB1
PHI, WHICH DISPLAYS A BAND OF HIGH INTENSITY AT 45,000 CM PRIME
NEGATIVE1. FACILITY: IZHEVSK. MEKH. INST., IZHEVSK, USSR.

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CALCULATION OF THE ULTRAVIOLET AND VISIBLE ABSORPTION SPECTRA OF A NICKEL,II 1,5,DIPHENYLFORMAZAN COMPLEX -U-

AUTHOR-(05)-YURCHENKO, E.N., KUKUSHKINA, I.I., YERMAKOVA, M.I., AVDEYEV, V.I., LATOSH, N.I.

COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 47-54

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, ABSORPTION SPECTRUM, NICKEL COMPLEX, CALCULATION, MOLECULAR ORBITAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1720 STEP NO--UR/0379/70/006/001/0047/0054

CIRC ACCESSION NO--AP0129088

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129088

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FREQUENCIES OF THE MAX. AND THE OSCILLATOR STRENGTHS ARE GIVEN OF BANDS OF THE ABSORPTION SPECTRA OF 1,5,DIPHENYLFORMAZAN I, AND ITS NI(II) COMPLEX (II), RESOLVED INTO INDIVIDUAL GAUSSIAN COMPONENTS, IN THE SOLNS. OF CCL SUB4, ME SUB2 CO, AND ETOH. IN VIEW OF THE INTERPRETATION OF THE BANDS, THE CALCN. OF THE MOLS. I AND II, BY USING THE MO LCAO METHOD OF MULLIKEN HELMHOLZ WOLFSBERG, WAS PERFORMED. THE SINGLE ELECTRON SCHEMES OF THE ENERGY LEVELS OF I, AND II, AND THE ASSIGNMENTS OF THE TRANSITIONS ARE GIVEN. THE INTENSITY OF THE LONGWAVE ABSORPTION OF I RISES IN GOING FROM CCL SUB4 TO ETOH, WHEREAS THE INTENSITY OF THE TRANSITIONS AT SHORTER WAVELENGTHS DID NOT CHANGE. THE OSCILLATOR STRENGTHS OF THE 1ST TRANSITION AND OF THE TRANSITIONS AT SHORTER WAVE LENGTHS DECREASED IN THE SPECTRUM OF II WITH THE INCREASING INTERACTION OF THE SOLVENTS IN THE ABOVE SEQUENCE. THIS INTERACTION CAUSES THE DECREASE OF THE NEG. CHARGE OF THE N ATOMS AND THE DECREASE OF THE OSCILLATOR STRENGTHS OF THE TRANSITIONS BETWEEN THE MO WHICH INCLUDED THE AO OF N. THE BAND OF II WHICH LIES IN THE IR REGION AT 4500 CM PRIME NEGATIVE1 WAS ASSIGNED, ON THE BASIS OF THE CALCNS., TO THE ELECTRONIC TRANSITION 9A SUBG-6A SUBU. ALL TRANSITIONS WERE INTERPRETED AS PI PI SEXTILE TRANSITIONS.

FACILITY: IZHEVSK. MEKH. INST., IZHEVSK, USSR.

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SARKISOV, G. G., YURCHENKO, G. V., and SIVCHIKOVA, M. G.

"Chemical Stable Porcelain"

USSR Author's Certificate No 235592, filed 19 Apr 65, published 7 Jul 69 (from RZh-Khimiya, No 1(II), 10 Jan 70, Abstract No 1 M79 P)

Translation: The composition of a porcelain characterized by increased alkali resistance (wt %) is given: SiO_2 61-63, $Al_2O_3$29-31, Fe_2O_3 0.4-0.5, CaO + MgO 0.7-0.8, Na_2O + K_2O 4.5-5, and TiO_2 0.4-0.6. The charge composition (wt %) is as follows: Oliseyevskiy pegmatite 40-42, Prosyanovskiy crude kaolin 23-25, Chasov-yarskaya clay 5-6, and sillimanite 18-20. Properties of the resulting porcelain are as follows: acid resistance 99.02, alkali resistance 92.66, coefficient of linear expansion $4.7 \cdot 10^{-6}$/deg, and heat resistance 57.36%. G. G.

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Semiconductors and Transistors

USSR

UDC 621.314.14

YURCHENKO, N.N.

"Dynamic Losses In Transistors Of Inverters Operating At An Active-Inductive Load"

V sb. Probl. tekhn. elektrodinamiki (Problems Of Electrodynamic Technics--Collection Of Works), Issue 24, Kiev, "Nauk.dumka," 1970, pp 51-55 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 43685)

Translation: The paper considers the switching processes for transistors operating at an active-inductive load. Calculated relations are derived for determination of the power which is dissipated in a transistor at the time of switching. The functional characteristics obtained make it possible to establish the dependence of these losses on the depth of the saturation factor and on the load power. 6 ill. 6 ref. Summary.

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USSR UDC 621.762.001:669.295:546.281

YURCHENKO, O. S.

"Investigation of the Compatibility of Iron With Disilicides of Transition Metals"

Vestn. Kiyev. politekhn. in-ta. Ser. mashinostr. (Herald of Kiev Polytechnic Institute: Machine-Building Series), 1971, No 8, pp 174-177 (English summary) (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G247 by author)

Translation of Abstract: Solid-state reactions of disilicides of transition metals with Fe were investigated by methods of X-ray phase analysis and microhardness measurement. Eutectics are found in Fe-Si-Me ternary systems. It is shown that disilicides react vigorously with Fe in the solid phase. Two illustrations. One table. Bibliography with two titles.

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23 August 1973

TECHNOLOGY OF PRODUCING NEW MATERIALS

Translation of Russian-language collection: Tekhnologiya Poluchenlya Novykh Materialov, 1972, Kiev.

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YURCHENKO, O.S.

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USSR

UDC 541.18

YURCHENKO, O. S., Kiev Polytechnical Institute

"Study of the Stability of Iron and Nickel During Heating in Contact With Refractory Compounds"

Kiev, Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 45-49

Abstract: A study was made of the stability of Fe and Ni during contact heating in a vacuum with oxides, carbides, borides, silicides, and nitrides of refractory metals and some nonmetals. Fusion of the metal phase in contact with refractory compounds arises from low-melting eutectics, whose formation is caused by diffusion of the nonmetallic component of a refractory compound into the investigated metal. Iron in contact with the investigated compounds is more stable than nickel. Borides and silicides are least stable with respect to Ni and Fe, and the most stable pairs among them are Fe-CrB_2 and Fe-WSi_2. The carbides are more stable in contact with Ni and Fe than borides and silicides. The Ni systems with carbides of group VI metals and also the Fe-CrC and Fe-WC systems have the greatest stability. Nitrides and oxides are the most stable compounds with respect to the investigated metals. Compact materials -- electrode nickel and arco-iron -- were used for the study.

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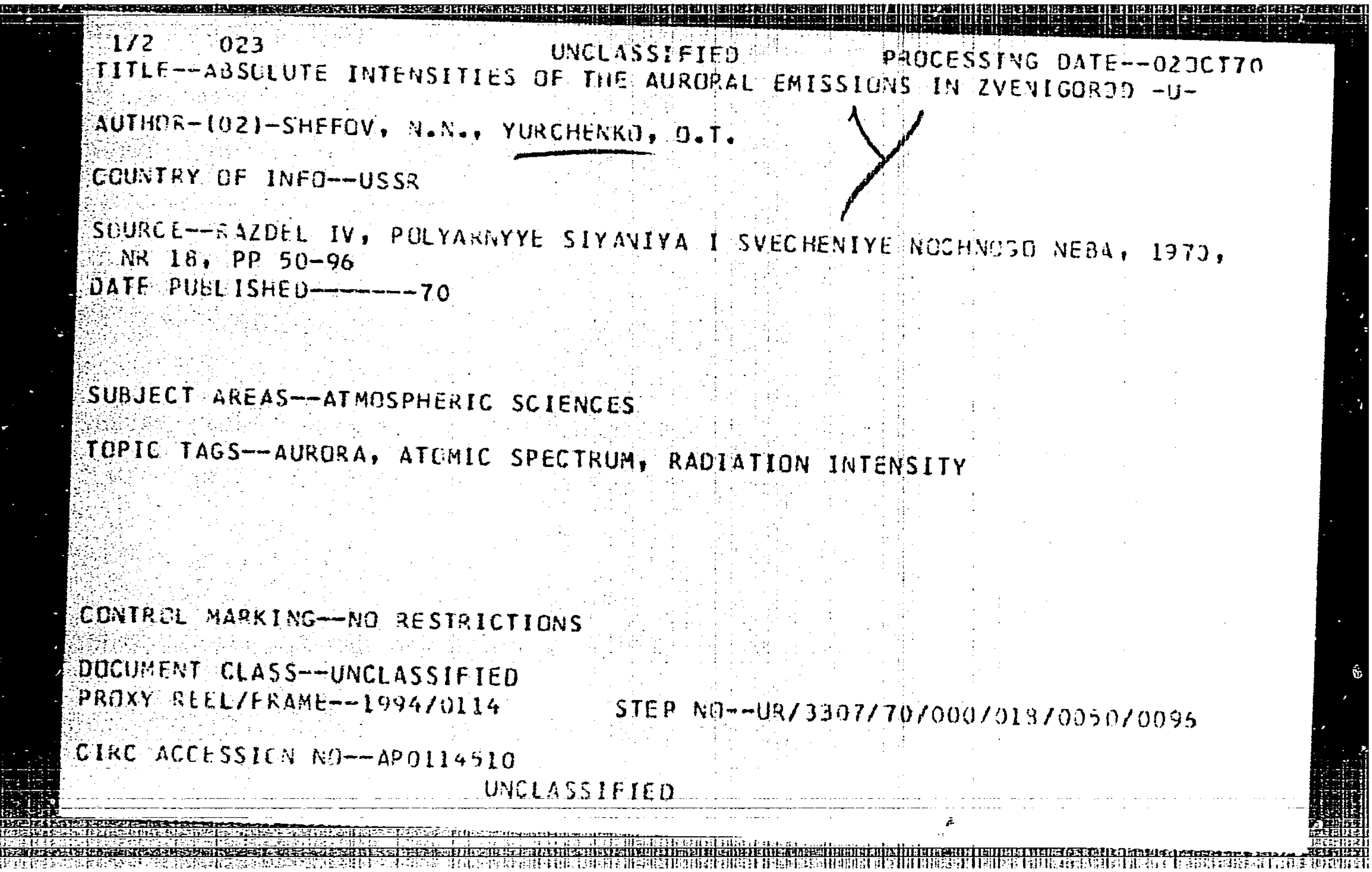

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